AMENDMENTS TO THE CLAIMS

1. **(Previously Amended)** An assay device comprising an array of non-nucleic acid molecules wherein each molecule in the array, with the exception of a negative control, is capable of interaction with its respective binding partner in a biological sample and wherein the pattern of interaction between the molecules and the binding partners is indicative of a condition.

2. **(Previously Amended)** An assay device comprising an array of non-nucleic acid molecules wherein each molecule in the array, with the exception of a negative control, is capable of interaction with its respective binding partner in a chemical library, phage display library or environmental sample, and wherein the pattern of interaction between the molecules and the binding partners is indicative of a particular binding partner in said sample.

3. **(Currently Amended)** ~~An~~ The assay device ~~according to~~ of claim 1 wherein the biological sample is from a human or non-human animal.

4. **(Currently Amended)** ~~An~~ The assay device ~~according to claims 1 to 3~~ of claim 1 or 2 wherein the array ~~comprises~~ is defined by the formula:

$$\left[\left[Px_1\right]_b^{n1}\left[Px_2\right]_c^{n2}\ldots\left[Px_j\right]_d^{n_j}\right]_z$$

wherein

P is a member of a binding group capable of interacting with a binding partner;

~~n_1 n_2 ..... n_i~~ n_1 n_2 ..... n_i represent different members of the binding group;

~~x_1 x_2 ..... x_i~~ x_1 x_2 ..... x_j represent different binding groups;

b, c and d represent the number of different members of the binding groups ~~x_1 x_2 ..... x_i~~ x_1 x_2 ..... x_j; respectively and wherein b, c and d may be the same or different and each is from about 0 to about 100 provided that at least one of b, c or d is not 0;

z is the total number of groups of molecules on the array and is from about 2 to about 2000.

5. **(Currently Amended)** ~~An~~ The assay device ~~according to~~ of Claim 1, wherein the ~~disease~~ condition ~~or disorder~~ is cancer.

6. **(Currently Amended)** ~~An~~ The assay device ~~according to~~ of Claim 1, wherein the binding partner is an antigen.

7. **(Currently Amended)** ~~An~~ The assay device ~~according to~~ of Claim 1, wherein the array comprises immunoglobulins in discrete regions of a solid support and the binding partners are antigens expressed on the surface of or released by a cell.

8. **(Currently Amended)** ~~An~~ The assay device ~~according to~~ of Claim 7 wherein the array ~~comprises~~ is defined by the formula:

$$\left[\left[q_{0_1}\right]_e^{m_1}\left[q_{0_2}\right]_f^{m_2}\cdots\left[q_{0_k}\right]_g^{m_i}\right]_y$$

wherein

q is an immunoglobulin specific for an antigen;

m_1 m_2 ... m_i represent members of the same immunoglobulin group which bind different parts of the same antigen;

0_1 0_2 ... 0_k represent different groups of immunoglobulins defined by specificity to different antigens;

e, f and g represent the number of different immunoglobulins within each of groups 0_1 0_2 ...0_k, respectively and wherein e, f and g may be the same or different and each is from 0 to ~~1~~ 100-- provided that at least one of e, f, and g is not 0;

y is the total number of groups of immunoglobulins on the array and is from about 2 to about 2000.

9. **(Currently Amended)** ~~An~~The assay device according to Claim 8 wherein the immunoglobulins are monclonal antibodies.

10. **(Currently Amended)** ~~An~~ The assay device ~~according to~~ of Claim 8, wherein the immunoglobulins are specific for an antigen selected from the group consisting of: the cluster of differentiation (CD) antigens, myeloid (MY) antigens and lymphoid (LY) antigens expressed on leukemic cells.

11. **(Currently Amended)** ~~An~~ The assay device ~~according to~~ of Claim 1, wherein the ~~disease or disorder~~ condition is non-neoplastic.

12. **(Currently Amended)** ~~An~~ The assay device ~~according to~~ of Claim 11, wherein the non-neoplastic ~~disease or disorder~~ condition is a disease or disorder of the immune system.

13. **(Currently Amended)** ~~An~~ The assay device ~~according to~~ of Claim 11 wherein the ~~disease~~ condition is selected from the group consisting of: an autoimmune disease,

infection by a pathogen, congenital immunodeficiency, adverse reaction following bone marrow or tissue transplantation and chronic fatigue syndrome.

14. **(Currently Amended)** ~~An~~ The assay device ~~according to~~ of Claim 1 or 2 wherein the non-nucleic acid molecules are immobilized on a solid support and are in an arrangement in the array such that upon interaction between the molecules and the binding partners, a differential pattern of density provides an identifiable signal.

15-29 **(Withdrawn)**

30. **(Cancelled)**

31-35 **(Withdrawn)**

36. **(Original)** The assay device of Claim 1, wherein the biological sample is from an animal, avian species, or plant.

37. **(Original)** The assay device of Claim 1, wherein the condition is selected from the group consisting of: a normal condition, a disease condition, a disorder, and a propensity for the development of a disease or disorder.

38. **(Original)** The assay device of Claim 2, wherein the pattern is further indicative of the type and/or amount of the binding partner.

39. **(Original)** The assay device of Claim 6, wherein the antigen is a chemical or wherein the antigen is a peptide, or a polypeptide in a phage display library.

40. **(Original)** The assay device of Claim 39, wherein the chemical is from a chemical library or an environmental sample.

41. **(Currently Amended)** The assay device ~~according to~~ of Claim 1, wherein the array comprises immunoglobulins in discrete regions of the solid support and the binding partners are chemicals or a peptide or polypeptide in a phage display library.

42. **(Currently Amended)** The assay device ~~according to~~ of Claim 41, wherein the chemicals are in a chemical library or an environmental sample.

43. **(Currently Amended)** The assay device ~~according to~~ of Claim 13, wherein the autoimmune disease is selected from the group consisting of: Type 1 diabetes, multiple sclerosis, myasthenia gravis, pernicious anaemia, psoriasis, rheumatoid arthritis, scleroderma and systemic lupus erythematosis.

44. **(Currently Amended)** The assay device ~~according to~~ of Claim 13, wherein the pathogen is selected from the group consisting of: a virus, a bacteria, a protozoan, and a fungus.

45. **(Currently Amended)** The assay device ~~according to~~ of Claim 44, wherein the virus is selected from the group consisting of: HIV-1, Hepatitis virus, and Esptein-Barr virus.

46. **(Currently Amended)** The assay device ~~according to~~ of Claim 44, wherein the protozoan is the malaria parasite.

47-52 **(Withdrawn)**

53. **(Currently Amended)** The assay device ~~according to~~ of Claim 1 wherein the binding of a binding partner to an immobilized molecule is determined using a labeled antibody to the same binding partner or to a different partner associated with said first binding partner.

54. **(Currently Amended)** The assay device ~~according to~~ of Claim 2 wherein the binding of a binding partner to an immobilized molecule is determined using a labeled antibody to the same binding partner or to a different partner associated with said first binding partner.

55. **(Withdrawn)**

56. **(NEW)** The device of Claim 1, wherein said non-nucleic acid molecules are antibodies or antibody parts.

57. **(NEW)** The device of Claim 56, wherein said antibodies or antibody parts are bound to the array covalently or by first binding protein G to the array.